

WHAT IS CLAIMED:

1. A method for selecting demodulated radio signals comprising:
demodulating radio signals to provide a first data stream;
5 demodulating the radio signals concurrently to provide a second data stream;
determining a first error level associated with the first data stream that
indicates the acceptability of the first data stream for further processing; and
determining a second error level associated with the second data stream that
indicates the acceptability of the second data stream for further processing.
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2. The method of Claim 1, wherein the method further comprises:
selecting the first data stream if the first error level is acceptable and the
second error level is unacceptable; and
selecting the second data stream if the second error level is acceptable and the
15 first error level is unacceptable.
3. The method of Claim 1, wherein the method further comprises:
comparing a first error rate associated with the first data stream to a second
error rate associated with the second data stream if the first and second error levels are
20 acceptable.
4. The method of Claim 3, wherein the method further comprises:
selecting the first data stream if the first error rate is less than the second error
rate; and
25 selecting the second data stream if the second error rate is less than the first
error rate.
5. The method of Claim 3, wherein one of the first and second data
streams comprises a previously selected data stream, wherein the method further
30 comprises selecting the previously selected data stream if the first and second error
rates are about equal.
6. The method of Claim 1, wherein determining the first error level
associated with the first data stream comprises determining a first Cyclic Redundancy

Code (CRC) check associated with the first data stream using Class 1A bits received in a frame of a TDMA channel that carries the radio signals; and

wherein determining the second error level associated with the second data stream comprises determining a second CRC check associated with the second data stream using the Class 1A bits.

7. The method of Claim 3, wherein comparing the first error rate associated with the first data stream to the second error rate associated with the second data stream if the first and second error levels are acceptable is preceded by:
10 determining the first error rate using at least Class 1B bits received in a frame of a TDMA channel that carries the radio signals; and
determining the second error rate using at least the Class 1B bits.

8. The method of Claim 1, wherein demodulating the radio signals
15 concurrently to provide a second data stream comprises demodulating the same radio signals used to provide the first data stream.

9. The method of Claim 1, wherein demodulating the radio signals
20 concurrently to provide a second data stream comprises demodulating the radio signals to provide the second data stream so as to overlap the first data stream in time.

10. The method of Claim 1, wherein demodulating the radio signals to provide a second data stream concurrently with the first data stream comprises demodulating the radio signals to provide an end portion of the second data stream so
25 as to overlap a starting portion of the first data stream in time.

11. The method of Claim 1, wherein demodulating the radio signals to provide a second data stream concurrently with the first data stream comprises demodulating the radio signals to provide at least one frame of the second data stream
30 that is substantially aligned in time with at least one frame of the first data stream.

12. The method of Claim 1 further comprising:
determining that one of the first and second data streams has a greater associated error level; and

stopping providing the data stream having the greater associated error level.

13. A method for selecting demodulated radio signals comprising:
demodulating radio signals received via a TDMA channel to provide a first
5 data stream;
demodulating the radio signals concurrently to provide a second data stream;
determining a first error level associated with the first data stream and a
second error level associated with the second data stream; and
determining a first error rate associated with the first data stream using Class
10 1B bits received in a frame of a TDMA channel that carries the radio signals and a
second error rate associated with the second data stream using the Class 1B bits if the
first and second error levels are acceptable.

14. The method of Claim 13 further comprising:
15 selecting the first data stream if the first error rate is less than the second error
rate; and
selecting the second data stream if the second error rate is less than the first
error rate.

20 15. The method of Claim 13, wherein one of the first and second data
streams comprises a previously selected data stream, wherein the method further
comprises:
selecting the previously selected data stream if the first and second error rates
are about equal.

25 16. The method of Claim 13 further comprising:
determining that one of the first and second data streams has a greater
associated error level; and
stopping providing the data stream having the greater associated error level.

30 17. A wireless radio receiver comprising:
a first demodulator circuit that receives radio signals and is configured to
provide a first data stream;

a second demodulator circuit that receives the radio signals and is configured to demodulate the radio signals concurrently with the first demodulator to provide a second data stream with the first data stream;

5 a first error circuit, electrically coupled to the first demodulator circuit, that is configured to determine a first error level associated with the first data stream that indicates the acceptability of the first data stream for further processing; and

a second error circuit, electrically coupled to the second demodulator circuit, that is configured to determine a second error level associated with the second data stream that indicates the acceptability of the second data stream for further
10 processing.

18. The wireless radio receiver of Claim 17 further comprising:

a selection circuit, electrically coupled to the first and second demodulator circuits, that is configured to select the first data stream if the first error level is
15 acceptable and the second error level is unacceptable and that is configured to select the second data stream if the first error level is unacceptable and the second error level is acceptable.

19. The wireless radio receiver of Claim 17, further comprising:

20 a comparator circuit, electrically coupled to the first and second demodulator circuits, that is configured to compare a first error rate associated with the first data stream to a second error rate associated with the second data stream if the first and second error levels are acceptable.

25 20. The wireless radio receiver of Claim 19 further comprising:

a selection circuit, electrically coupled to the first and second demodulator circuits, that is configured to select the first data stream if the first error rate is less than the second error rate and that is configured to select the second data stream if the second error rate is less than the first error rate.

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21. The wireless radio receiver of Claim 17, wherein the first error circuit comprises a first Cyclic Redundancy Code (CRC) check circuit that is configured to determine the first error level using Class 1A bits received in a frame of a TDMA channel that carries the radio signals; and

wherein the second error circuit comprises a second CRC check circuit that is configured to determine the second error level using the Class 1A bits.

22. The wireless radio receiver of Claim 19 further comprising:
5 a first error rate circuit, electrically coupled to the first demodulator circuit, that is configured to provide the first error rate using at least Class 1B bits received in a frame of a TDMA channel that carries the radio signals; and
a second error rate circuit, electrically coupled to the second demodulator circuit, that is configured to provide the second error rate using at least the Class 1B
10 bits.

23. The wireless radio receiver of Claim 17, wherein the wireless radio receiver comprises a wireless radiotelephone.

24. The wireless radio receiver of Claim 17, wherein the wireless radio receiver comprises a wireless base station.

25. The wireless radio receiver of Claim 17, wherein the same radio signals are demodulated to provide the first and second data streams.

26. The wireless radio receiver of Claim 17, wherein the second data stream overlaps the first data stream in time.

27. The wireless radio receiver of Claim 17, wherein an end portion of the second data stream overlaps a starting portion of the first data stream in time.

28. The wireless radio receiver of Claim 17, wherein at least one frame of the second data stream is substantially aligned in time with at least one frame of the first data stream.

29. A wireless radio receiver comprising:
a first demodulator circuit that receives radio signals and that is configured to provide a first data stream;

a second demodulator circuit that receives the radio signals and that is configured to demodulate the radio signals concurrently with the first demodulator to provide a second data stream;

5 a first error level circuit, electrically coupled to the first demodulator circuit, that is configured to determine a first error level associated with the first data stream using Class 1A bits received in a frame of a TDMA channel;

a second error level circuit, electrically coupled to the second demodulator circuit that is configured to determine a second error level associated with the second data stream using the Class 1A bits;

10 a first error rate circuit, electrically coupled to the first demodulator circuit, that is configured to provide a first error rate associated with the first data stream using at least Class 1B bits received via in the frame of the TDMA channel; and

a second error rate circuit, electrically coupled to the second demodulator circuit, that is configured to provide a second error rate associated with the second data stream using at least the Class 1B bits.

30. The wireless radio receiver of Claim 29, wherein the first and second error levels are determined to be acceptable, the wireless radio receiver further comprises:

20 a selection circuit, electrically coupled to the first and second demodulator circuits, that is configured to select the first data stream if the first error rate is less than the second error rate and that is configured to select the second data stream if the second error rate is less than the first error rate.

25 31. The wireless radio receiver of Claim 30, wherein one of the first and second data streams comprises a previously selected data stream; and

wherein the selection circuit is configured to select the previously selected data stream if the first and second error rates are about equal.

30 32. The wireless radio receiver of Claim 29, wherein the same radio signals are demodulated to provide the first and second data streams.

33. The wireless radio receiver of Claim 29, wherein the second data stream overlaps the first data stream in time.

34. The wireless radio receiver of Claim 29, wherein an end portion of the second data stream overlaps a starting portion of the first data stream in time.

5 35. The wireless radio receiver of Claim 29, wherein at least one frame of the second data stream is substantially aligned in time with at least one frame of the first data stream.

10 36. A system for selecting demodulated radio signals comprising:
means for demodulating radio signals to provide a first data stream;
demodulating the radio signals concurrently to provide a second data stream;
means for determining a first error level associated with the first data stream
that indicates the acceptability of the first data stream for further processing; and
means for determining a second error level associated with the second data
15 stream that indicates the acceptability of the second data stream for further
processing.

20 37. The system of Claim 36, wherein the system further comprises:
means for selecting the first data stream if the first error level is acceptable and
the second error level is unacceptable; and
means for selecting the second data stream if the second error level is
acceptable and the first error level is unacceptable.

25 38. The system of Claim 36, wherein the system further comprises:
means for comparing a first error rate associated with the first data stream to a
second error rate associated with the second data stream if the first and second error
levels are acceptable.

30 39. The system of Claim 38, wherein the system further comprises:
means for selecting the first data stream if the first error rate is less than the
second error rate; and
means for selecting the second data stream if the second error rate is less than
the first error rate.

40. The system of Claim 38, wherein one of the first and second data streams comprises a previously selected data stream, wherein the system further comprises selecting the previously selected data stream if the first and second error rates are about equal.

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41. The system of Claim 36, wherein means for determining the first error level associated with the first data stream comprises means for determining a first Cyclic Redundancy Code (CRC) check associated with the first data stream using Class 1A bits received in a frame of a TDMA channel that carries the radio signals;

10 and

wherein the means for determining the second error level associated with the second data stream comprises means for determining a second CRC check associated with the second data stream using the Class 1A bits.

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